

REMARKS

Claims 1-7, 10-17 and 19 stand rejected in the above-identified patent application, while claims 8, 9 and 18 merely have been objected to as depending from a rejected claim. In response, the subject matter of claim 8 is being incorporated into claim 1 and claim 8 is being cancelled. Therefore, claims 1-7 and 9-19 will be pending following entry of this amendment.

Rejection Under 35 U.S.C. §102

Claims 1, 2, 6, 7, 10, 12, 14, 15, 17 and 19 were rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,492,775 to Klotz *et al.* (the Klotz patent).

Claim 1 has been amended to incorporate the allowable subject matter from claim 8. This renders claims 1 and 2 patentable.

Claim 6 has been rewritten in independent form and claims 7 and 9-11 have been amended to depend from claim 6. Amended claim 6 states that the concentric light detection area of the emitter-detector assembly is substantially equal in size to the light emission area of that assembly. In the embodiment of the present invention shown in Figure 4, the area of the inner chamber 36 containing the light detector 27 is substantially equal to the area of the annular outer chamber 38 in which the light emitters 21 are located. The significance of this size relationship is described in paragraphs [0024] through [0032] in the application.

It is respectfully submitted that the Klotz patent does not come close to teaching this relationship nor the benefits of it. It is noted that the rejection has not cited any passage of the reference that teaches this size relationship. Furthermore, the patent drawings clearly

show a vast disparity in those respective sizes. Specifically in the embodiment of Figure 4, the diameter of the tube 78 of the light detector 75 is about one fifth the diameter of the casing 59 and the open end of the parabolic reflector 66 that forms the light emitter. When these diameters are employed to calculate the respective sizes of the light emission area and the light detection area, those area do not even come close to being substantially equal. A similar size relationship exists in the other embodiments. Therefore, the Klotz patent does not teach the structure recited in claim 6 and its dependent claims 7 and 9-11.

Claim 12 now states that the light emission section comprises a light emitter assembly from which the light beam emanates and that the light emitter assembly is concentric with the light detection section. Note that in the embodiment of the present invention in Figure 3, the assembly of light emitters 21 is arranged concentrically around the light detector 27. This is in contrast to the arrangement of the emitter and detector in the Klotz patent. In Figure 4 of that reference, the light detector 75 is positioned in front of the light emitter assembly 62 and in Figure 7 the light emitter assembly 162 is arranged to one side of the light detector 206 with a mirror 202 directing the light from that side. Similarly in Figure 8, the detectors are aligned in front of the light emitter. Spacing the light emitter and detector axially with respect to one another in a cylindrical housing is vastly different than the concentric relationship being claimed. Although the light from the light emitter assembly 62 passes around the light detector 75 in these devices, that does not teach the claimed concentric arrangement recited in claim 12.

Claim 14 specifies that the light emission section has the light emitter extending around the photodetector which also is not shown in the various embodiments in the Klotz patent.

Nor does the reference teach the configuration in claim 17 in which the light detection section is substantially equal to the cross sectional area of the light emission section, as stated previously with respect to claim 1.

Therefore, in view of these distinctions, claims 1, 2, 6, 7, 10, 12, 14, 15, 17 and 19 are not anticipated by the Klotz patent under 35 U.S.C. §102.

Rejection Under 35 U.S.C. §103

Claims 3, 11, 13 and 16 have been rejected under 35 U.S.C. §103 as unpatentable over the Klotz patent.

Claims 3 and 13 specify that the light emission area or section, respectively, has a plurality of emitters located at different angles axially around the photodetector. It is respectfully submitted that it would not be obvious to replace the single lamp 64 with a plurality of light emitters as doing so would add expense and complexity to the apparatus shown in the Klotz patent. Furthermore, the light emitter assemblies in Figures 4 and 7 of Klotz utilize a single lamp and a parabolic reflector to emit a collimated light beam toward a lens. In both embodiments, the lens properly directs the light beam toward the retroreflector. Replacing the light assembly comprising a single bulb and the parabolic mirror with a plurality of light emitters would produce a plurality of diverging light beams within the casing. The lens systems in Klotz would not properly direct each of those spaced apart diverging beams properly toward the associated retroreflector 42. For the same reason it would not be obvious the replace the single light emitter at the focal point of the lens assembly in Figure 8 in the Klotz patent with a plurality of emitters. As a consequence, significant additional modification of the Klotz apparatus would be required

to utilize a plurality of light emitters and properly direct their individual beams, with no suggestion being given as to why or how to make that conversion. Thus the modification proposed in the rejection would not have been obvious to one of ordinary skill in the art.

Claims 11 and 16 are patentable for the same reasons expressed above with respect to their parent claims 1 and 12, respectively.

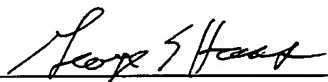
Claims 4 and 5 stand rejected under 35 U.S.C. §103 as being unpatentable over the Klotz patent in view of U.S. Patent application 2003/0106991. Both of these claims depend from claim 1 which has been amended to incorporate the allowable subject matter from claim 8. As a result, the rejection of claims 4 and 5 is rendered moot.

Conclusion

In view of these distinctions between the subject matter of the present claims and teachings of the Klotz patent, reconsideration and allowance of the present application are requested.

Respectfully submitted,
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